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UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Fisher, et al.
Serial No.:	09/784,991
Filed:	February 16, 2001
Group Art Unit:	3676
Examiner:	Boswell, Christopher J.
Title:	LATCH MECHANISM

Box AF
Assistant Commissioner of Patents
Washington, D.C. 20231

APPEAL BRIEF

Dear Sir:

Subsequent to the filing of the Notice of Appeal on October 9, 2002, Appellant hereby submits its brief. The Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds, P.C. for the $320 appeal brief fee.

REAL PARTY IN INTEREST

The real party in interest is Meritor Light Vehicle Systems (UK) Limited the assignee of the entire right and interest in this Application.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Claims 1-22 stand finally rejected under 103(a).

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF THE INVENTION

As shown in Figures 1-4, this invention relates to a latch mechanism 10 for releasably retaining a door. The latch mechanism 10 includes a latch bolt 14 and a pawl 16 that releasably secures the latch bolt 14 in a closed condition. The latch mechanism 10 further includes a retention plate 12 that co-operates with the latch mechanism 10 to releasably retain a striker 72. At least one of the latch bolt 14, the pawl 16, and the retention plate 12 are made from a plurality of structural laminations.

Dependent claim 4 requires that the latch bolt 14 includes a plurality of latch bolt laminations 45, 46 and 47. Dependent claim 6 requires that the pawl 16 includes a plurality of pawl laminations 60, 61 and 62. Dependent claim 8 requires that the retention plate 12 including a plurality of plate laminations 20 and 21. Claim 11, which depends on claim 1, requires that one of the plurality of laminations includes a tab.

Claim 15 requires that at least one of the plurality of lamination is non-homogeneous such that a strength of the laminations as measured in a first direction is different from a strength of the laminations as measured in a second direction. Dependent claim 16 requires that the first direction and the second direction is aligned, and dependent claim 17 requires that the first direction and the second direction are misaligned.

Claim 19, which depends on claim 1, requires that the plurality of laminations are at least partially over molded by a non-structural plastic.

Independent claim 22 requires a latch mechanism 10 including a latch bolt and a pawl 16 that releasably secures the latch bolt 14 in a closed condition. At least one of the latch bolt 14 and the pawl 16 is made from a plurality of structural laminations and a profile of one of the laminations is different from a profile of the other of the laminations.

ISSUES

A. Are Claims 1-14 and 19-21 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit?

B. Is Claim 4 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit?

C. Is Claims 6 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit?

D. Is Claims 8 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit?

E. Is Claim 11 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit?

F. Are Claims 15-17 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit and further in view of Cutler?

G. Is Claim 19 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit?

H. Is Claim 21 properly rejected under 35 U.S.C. 103(a) based on Spurr in view of Pettit?

GROUPINGS OF CLAIMS

A. The rejection of Claims 1-14 and 19-21 is contested.

B. The rejection of Claims 4 is separately contested, that is, the rejection of the Claim does not stand or fall with the rejection of the other Claims.

C. The rejection of Claims 6 is separately contested, that is, the rejection of the Claim does not stand or fall with the rejection of the other Claims.

D. The rejection of Claims 8 is separately contested, that is, the rejection of the Claim does not stand or fall with the rejection of the other Claims.

E. The rejection of Claim 1 is separately contested, that is, the rejection of the Claim does not stand or fall with the rejection of the other Claims.

F. The rejection of Claims 15-17 is separately contested, that is, the rejection of the Claims does not stand or fall with the rejection of the other Claims.

G. The rejection of Claims 19 is separately contested, that is, the rejection of the Claim does not stand or fall with the rejection of the other Claims.

H. The rejection of Claim 21 is contested.

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PATENTABILITY ARGUMENTS

A. The rejection of Claims 1-14 and 19-21 under 35 U.S.C. 103(a) is improper.

The Examiner finally rejected Claims 1-14 and 19-21 based on Spurr (U.S. Patent No. 5,906,123) in view of Pettit (United States Patent No. 5,951,800). Spurr discloses a vehicle door latch assembly 10 including a rotatable claw 12 which coacts with a striker 14. A pawl 16 retains the claw 12 in engagement with the striker 14 to keep a door closed. The claw 12 and the pawl 16 are pivoted on a metal back plate 22 secured to the door. Pettit discloses a fiber/metal laminate 10 including a plurality of metal plies 12 which alternate with a plurality of fiber/adhesive layers 14. As disclosed in column 3, lines 16 to 20, each metal ply 12 is made of a plurality of metal sheets 16 with a metal break 18 between each sheet 16. The metal sheets 16 are spliced together to form the metal ply 12. The plurality of metal plies 12 are spliced together to increase the width of the laminate 10. The Examiner argues that it would be obvious to provide the laminations of Pettit in the latch assembly of Spurr.

The present invention is patentable and strikingly different from the combination of Spurr and Pettit. As described by the claims, the present invention provides a vehicle door latch mechanism having:

> ... a latch bolt having a closed condition capable of retaining a striker and an open condition capable of releasing said striker; a pawl releasably securing said latch bolt in said closed condition;...

[See Claim 1]. Claims 1-22 of the present invention all share this same or similar feature. [See Claims 1-22].

It is not obvious to employ the spliced laminate of Pettit in the latch assembly of Spurr. There is no benefit in employing the width increasing spliced laminate of Pettit in the latch assembly 10 of Spurr. The latch assembly 10 of Spurr is used in a door and includes small components. The metal sheets 16 of Pettit are spliced together to increase the width of the laminate 10 of the metal plies 12. As the latch assembly 10 of Spurr includes small components, there would be no reason to

increase the width of small components of the latch assembly 10. There is no suggestion to employ the spliced together metal ply 12 of Pettit with the latch assembly 10 of Spurr, and therefore no motivation to combine these references.

Additionally, the laminate 10 of Pettit is a complex material used in aerospace applications, which would be expensive. There would be no reason to employ the complex expensive laminate 10 of Pettit in the latch assembly 10 of Spurr.

Finally, the claw 12 and the pawl 16 of Spurr withstand side impacts when contacting each other as the latch assembly 10 operates. As the laminate 10 of Pettit is used in aerospace applications to increase the width of the laminate 10, the laminate 10 of Pettit is not designed to withstand side impacts as would occur with the small parts of the latch mechanism10 of Spurr. There is no reason to employ the width increasing laminate 10 of Pettit in the latch mechanism 10 of Spurr, and Appellant's claims are not obvious.

B. The rejection of Claim 4 under 35 U.S.C. 103(a) is improper.

The rejection of Claim 4 is separately contested from the rejection of Claims 1 et al. Claim 4 claims that the latch bolt includes a plurality of laminations. The metal plies 12 of Pettit are spliced to increase the width of the laminate 10. The latch bolt 14 of Spurr is a small component of the latch assembly 10. There is no benefit to splice together laminations in the latch bolt 14 of Spurr in the manner suggested by Pettit and there is no need to increase the width of the latch bolt 14. The rejection of Claim 4 is improper.

C. The rejection of Claim 6 under 35 U.S.C. 103(a) is improper.

The rejection of Claim 6 is separately contested from the rejection of Claims 1 et al. Claim 6 claims that the pawl includes a plurality of laminations. As explained above, the metal plies 12 of Pettit are spliced to increase the width of the laminate 10. The pawl 16 of Spurr is a small component of the latch assembly 10. There is no benefit to splice together laminations in the pawl 16 of Spurr in the manner suggested by Pettit and there is no need to increase the width of the pawl 16. The rejection of Claim 6 is improper.

D. The rejection of Claim 8 under 35 U.S.C. 103(a) is improper.

The rejection of Claim 8 is separately contested from the rejection of Claims 1 et al. Claim 8 claims that the retention plate includes a plurality of laminations. The metal plies 12 of Pettit are spliced to increase the width of the laminate 10. The back plate 22 of Spurr is a small component of the latch assembly 10. There is no benefit to splice together laminations in the back plate 22 of Spurr in the manner suggested by Pettit and there is no need to increase the width of the back plate 22. The rejection of Claim 8 is improper.

E. The rejection of Claim 11 under 35 U.S.C. 103(a) is improper.

The rejection of Claim 11 is separately contested from the rejection of Claims 1 et al. Claim 11 requires that one of the plurality of laminations includes a tab. The Examiner points to Figures 2 and 3 and contends that the latch components includes a tab. Although the latch bolt 14 and the pawl 16 of Spurr do includes tabs extending the entire thickness of the latch bolt 14 and the pawl 16, Spurr does not disclose or suggest a latch bolt or a pawl 16 made of a plurality of laminations, one of which includes a tab. Neither references discloses or suggest a laminate having one lamination with a tab, and the combination of Spurr and Pettit do not suggest Appellant's Claim 11.

F. The rejection of Claims 15-17 under 35 U.S.C. 103(a) is improper.

The rejection of Claims 15-17 is separately contested from the rejection of Claims 1 et al. Claims 15-18 are rejected as being obvious over Spurr in view of Pettit and further in view of Cutler. Culter discloses a complex hybrid ceramic matrix composite laminate 10 including ceramic layers 12 and CMC layers 14 that include fibers that can be aligned unidirectionally or multidirectionally. As disclosed in column 2, lines 5 to 10, the laminate 10 of Cutler is a high temperature, damage tolerant, thermal shock resistant, oxidation resistant, high strength laminate.

There is no suggestion to combine the references. Cutler is a complex material. There is no reason to employ this expensive material in the latch assembly 10 disclosed in Spurr, and therefore no motivation to combine. Additionally, even if unidirectional or multidirectional fibers of the complex laminate 10 of Culter were employed in the combination, there is still no benefit to

employing width increasing spliced together laminate layers in the small latch mechanism of Spurr. There is no suggestion to combine these references, and the combination is improper.

G. The rejection of Claim 19 under 35 U.S.C. 103(a) is improper.

The rejection of Claim 19 is separately contested from the rejection of Claims 1 et al. Claim 19 requires that the plurality of laminations are at least partially over molded by a non-structural plastic. The Examiner references Spurr, column 2, lines 13 to 15, which discloses a molded plastic housing 30. However, the molded plastic housing 30 of Spurr contains the latch mechanism and does not overmold any of the components of the latch mechanism. Spurr does not disclose that any of the components of the latch mechanism are over molded. Neither reference discloses or suggests overmolding of any components as required by Appellant's claims, and Claim 19 is not obvious.

H. The rejection of Claims 22 under 35 U.S.C. 103(a) is improper.

The rejection of Claims 22 is separately contested from the rejection of Claims 1 et al. Independent claim 22 requires a latch mechanism including a pawl that releasably secures a latch bolt in the closed condition. At least one of the latch bolt and the pawl is made from a plurality of structural laminations wherein a profile of one of the laminations is different from a profile of the other of the laminations.

Pettit illustrates and discloses four metal plies 12 in the laminate 10. Each of the metal plies 12 has a break 18 at different locations. Appellant's claim 22 requires that at least one of the latch bolt and the pawl is made from a plurality of laminations, and a profile of one of the laminations is different from a profile of the other laminations. Pettit does not discloses that the metal plies 12 have different profiles as required by Appellant's claim 22. Although the breaks 18 are at different locations, the profiles of the metal plies 12 in the laminate 10 are not disclosed as being different. Claim 22 is not obvious.

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CLOSING

For the reasons set forth above, the rejection of all claims is improper and should be reversed.

Appellant respectfully requests such an action.

Respectfully Submitted,

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Dated: December 9, 2002

CERTIFICATE OF FACSIMILE

I hereby certify that this appeal brief is being facsimile transmitted to the United States Patent and Trademark Office, TC 3600, After Final, (703) 872-9325.

Beth A. Beard

CLAIM APPENDIX

1. A vehicle door latch mechanism for releasably retaining a door comprising:

a latch bolt having a closed condition capable of retaining a striker and an open condition capable of releasing said striker;

a pawl releasably securing said latch bolt in said closed condition; and

a retention plate including at least one mouth co-operating with said latch mechanism to releasably retain said striker, at least one pivot pin hole defining a pivot pin hole surface for a pivot pin, said latch bolt, said pawl and said retention plate co-operating to releasably retain said striker, and at least one of said latch bolt, said pawl and said retention plate are made from a plurality of structural laminations of material.

2. The latch mechanism as recited in claim 1 wherein said pivot pin is secured to said retention plate in said pivot pin hole.

3. The latch mechanism as recited in claim 1 wherein said pivot pin is pivotally mounted in said pivot pin hole.

4. The latch mechanism as recited in claim 1 wherein said latch bolt includes a plurality of latch bolt laminations.

5. The latch mechanism as recited in claim 4 wherein said plurality of latch bolt laminations combine to form a closed abutment surface, a first safety abutment surface for contact with said pawl of said latch mechanism, a retention surface for engagement with said striker associated with said latch mechanism and a latch pivot pin surface.

6. The latch mechanism as recited in claim 1 wherein said pawl includes a plurality of pawl laminations.

7. The latch mechanism as recited in claim 6 wherein said plurality of pawl laminations combine to form an abutment surface for engagement with a closed abutment surface and first safety abutment surface of said latch bolt and a pawl pivot pin surface.

8. The latch mechanism as recited in claim 1 wherein said retention plate includes a plurality of plate laminations.

9. The latch mechanism as recited in claim 8 wherein said plurality of plate laminations which combine to form said mouth for receiving said striker and a plate pivot pin hole.

10. The latch mechanism as recited in claim 8 wherein said plurality of plate laminations co-operate to provide a fixing system to secure said latch mechanism operably in an operating position.

11. The latch mechanism as recited in claim 1 wherein one of said plurality of laminations includes a tab.

12. The latch mechanism as recited in claim 11 wherein said tab is located on said latch bolt and is for engagement with a chassis of said latch mechanism.

13. The latch mechanism as recited in claim 11 wherein said tab is located on said pawl.

14. The latch mechanism as recited in claim 11 wherein said tab is located on said retention plate.

15. The latch mechanism as recited in claim 1 wherein at least one of said plurality of laminations is non homogeneous such that a strength of said lamination as measured in a first direction is different from a strength of said lamination as measured in a second direction.

16. The latch mechanism as recited in claim 15 wherein a first lamination and a second lamination are non homogeneous with a strength of each of said laminations as measured in a respective first direction being different from a strength of said laminations as measured in a respective second direction, said respective first directions of said first and second laminations being aligned.

17. The latch mechanism as recited in claim 15 wherein a first lamination and a second lamination are non homogeneous with a strength of each of said laminations as measured in a respective first direction being different from a strength of said laminations as measured in a respective second direction, said respective first directions of said first and second laminations being misaligned.

18. The latch mechanism as recited in claim 15 wherein said plurality of laminations are made from steel having a grain structure.

19. The latch mechanism as recited in claim 1 wherein said plurality of laminations are at least partially over molded by a non structural plastics material.

20. The latch mechanism as recited in claim 19 wherein said plurality of partially over molded laminations are partially secured by said over molding.

21. The latch mechanism as recited in claim 1 wherein each of said plurality of structural laminations are formed in one piece.

22. A vehicle door latch mechanism for releasably retaining a door comprising:

a latch bolt having a closed condition capable of retaining a striker and an open condition capable of releasing said striker; and

a pawl releasably securing said latch bolt in said closed condition, and at least one of said latch bolt and said pawl is made from a plurality of structural laminations of material wherein a profile of one of said plurality of laminations is different from a profile of the other of said plurality of laminations.

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